

Learnzy Academy

Worksheet: Electricity

1. Define the unit of current.
2. Why are metals good conductors of electricity whereas glass is a bad conductor of electricity ? Give reason.
3. An electric iron of resistance 20Ω takes a current of 5 A. Calculate the heat developed in 30 s.
4. Calculate the resistance of a metal wire of length 2 meters and cross-sectional area 1.55×10^{-6} square meters, if the resistivity of the metal is 2.8×10^{-8} ohm meter.
5. What does an electric circuit mean?
6. How much energy is given to each coulomb of charge passing through a 6 V battery?
7. Let the resistance of an electrical component remains constant while the potential difference across the two ends of the component decreases to half of its former value. What change will occur in the current through it?
8. Calculate the number of electrons constituting one coulomb of charge.
9. A current of 1 A is drawn by a filament of an electric bulb. Number of electrons passing through a cross section of the filament in 16 seconds would be roughly.
10. Why does the cord of an electric heater not glow while the heating element does?
11. What is meant by saying that the potential difference between two points is 1 V?
12. On what factors does the resistance of a conductor depend?
13. Compute the heat generated while transferring 96000 coulomb of charge in one hour through a potential difference of 50 V
14. What is the maximum resistance which can be made using five resistors each of $1/5 \Omega$?
15. How is the resistivity of alloys compared with those of pure metals from which they may have been formed?
16. List the factors on which the resistance of a conductor in the shape of a wire depends.
17. Name a device that you can use to maintain a potential difference between the ends of a conductor. Explain the process by which this device does so.
18. Why are alloys commonly used in electrical heating devices ?
19. Calculate the resistivity of the material of a wire of length 1 m, radius 0.01 cm and resistance 20 ohms.
20. What are the advantages of connecting electrical devices in parallel with the battery instead of connecting them in series?

